

REMARKS

Favorable reconsideration and allowance of the present application in view of the foregoing amendments and the following remarks are respectfully requested.

Claims 70-99 remain in the present application, including independent claims 70, 88, and 93. Independent claim 70, for instance, is directed to a method for forming a tissue product. The method comprises forming a paper web from a cellulosic material and a superabsorbent material. The superabsorbent material comprises from about 0.1% to 3% by weight of the paper web. The paper web is at least partially dried. The resulting tissue product is formed primarily from the paper web and optionally one or more additional paper webs, the tissue product having a basis weight less than about 100 grams per square meter.

In the Office Action, original independent claims 36, 53, 61, and 69 were rejected under 35 U.S.C. §103(a) as being obvious in view of U.S. Patent No. 5,651,862 to Anderson, et al. Anderson, et al. is directed to an absorbent, wet-formed composite that comprises a combination of fibers and absorbent material. The absorbent material is desirably swellable in the absorbent medium. The composite is suitable for use in products such as diapers, feminine care products, adult incontinence products, wound dressings, training pants, wipes, and mats. (Col. 10, lines 21-29). When the absorbent composite is employed in diapers, for instance, the composites are suitably sandwiched between a liquid-pervious bodyside liner and a liquid-impervious outer cover. (Col. 10, lines 21-29).

However, Applicants respectfully submit that Anderson, et al. fails to disclose various limitations of independent claims 70, 88, and 93. For example, these

independent claims each require the formation of a *tissue product*, such as facial tissue, bath tissue, paper towels, and so forth. (See, e.g., Appl. p. 5, lines 18-28). Citing column 6, lines 34-40, the Office Action indicates that the composite of Anderson, et al. may be a tissue product. However, this portion of Anderson, et al. only refers to scanning electron photomicrographs of two *prior art* laminates discussed in Comparative Examples 1 and 3. Comparative Example 1 discloses forming a laminate structure “according to the prior art” by providing a bottom wet-laid fiber sheet, applying a 75 grams per square meter layer of absorbent material onto this bottom fiber sheet, covering the absorbent material with a second fiber sheet identical to the bottom sheet, and compressing and drying the laminate structure, whose resulting basis weight is about 165 grams per square meter. (See Fig. 2; Col. 12, lines 35-55). Similarly, Comparative Example 3 describes a commercially available laminate consisting of two air-formed pulp sheets and a 75 grams per square meter layer of absorbent material, where the laminate has a basis weight of about 396 grams per square meter. (See Fig. 3; Col. 13, lines 1-14).

Returning to column 6 of Anderson, et al., it describes how the photomicrographs of the “prior art laminates” of FIGS. 2 and 3 (Comparative Examples 1 and 3) show “much less mixing and, therefore, less contact between the fibers of the *tissue sheet* and the absorbent material” when compared to FIG. 1. (Emphasis added). This mention of “tissue sheet” with respect to the two prior art laminates does not disclose that the wet-formed composite of Anderson, et al. may be a tissue product formed primarily from one or more low basis weight paper webs as presently claimed by the Applicants. Rather, Anderson, et al. only emphasizes that “by combining the absorbent

material and fiber slurry prior to formation of the wet-formed composite, a *composite* possessing improved performance properties can be produced." (Col. 6, lines 1-4) (emphasis added). And this *composite* of Anderson, et al. is not a tissue product, but instead (1) is suitable for use in absorbent products such as diapers, feminine care products, adult incontinence products, wound dressings, training pants, wipes, and mats, and (2) has advantages over prior art laminates where absorbent material is merely sandwiched between two pre-formed layers of fiber sheets. Thus, for at least the reasons set forth above, Applicants respectfully submit that independent claims 70, 88, and 93 patentably define over Anderson, et al.

Apart from the above, Anderson, et al. also fails to teach other aspects of independent claim 70, 88, and 93. For example, independent claims 88 and 93 are directed to a method for forming a tissue product or tissue product that contains superabsorbent material that is pre-swollen, such as to greater than about 30% of its total swelling capacity, prior to formation of the paper web. Although Anderson, et al. does mention pre-swelling, it is expressly indicated as being undesired. (Col. 2, ll. 25-28). Instead, Anderson, et al. is particularly directed to a method for forming an absorbent composite in which an absorbent material in a dry form is combined with a slurry of fibers. (See e.g., Col. 8, ll. 29-31; Cols. 13-14).

Pre-swelling the superabsorbent material in the context of the present claims may provide a variety of benefits to the resulting tissue product. For instance, when applying the superabsorbent material to certain stages of a papermaking process, such as to the headbox, pre-swelling may ensure that the superabsorbent material has sufficient time to adequately swell during the process. (Appl. pp. 10-11). The extent of

pre-swelling may vary depending on a variety of factors, such as the time in which the superabsorbent material is allowed to remain in the solution, the type of superabsorbent material, the amount of superabsorbent material, the stage of the process in which the material is applied, the desired amount of tissue absorbency, and so forth. (Appl. p. 11, II. 2-18). Thus, for at least these additional reasons, Applicants respectfully submit that independent claims 88 and 93 patentably define over Anderson, et al.

Moreover, independent claim 70 requires that the superabsorbent material comprise from about 0.1% to 3% by weight of the paper web. The Office Action asserts that it would have been obvious to construe the term "about 3%" by weight to read on a weight percentage of 5%. Applicants initially note that the term "about" has been removed from independent claim 70. In any event, the teachings of Anderson, et al., when viewed in their entirety, simply would not lead one of ordinary skill in the art to the claimed weight percentage. For example, as explained in the previous response, Applicants have discovered that even minute amounts of a superabsorbent material can significantly improve the absorbent capacity of the tissue product when utilized in accordance with the present invention. For example, the present specification describes how a superabsorbent material present in an amount of only about 1% by weight can increase the absorbent capacity of the tissue by about 15%. (Appl. p. 7, lines 13-25).

Conversely, the most preferred concentration range of Anderson, et al. is from about 70% to about 90%. (Col. 5, lines 18-23). Such a high level of superabsorbent material is particularly significant when considering the differences between the absorbent products of Anderson, et al. and the tissue products of the present claims.

For example, Anderson, et al. seeks to provide wet-formed composites that are suitable for products such as diapers and feminine care products. Wet-formed composites suitable for such higher basis weight absorbent products need to have improved performance properties, such as the substantial containment of the absorbent material “*even at relatively high concentrations of the absorbent material relative to the concentration of fiber*”, which is difficult to achieve in prior art laminates wherein absorbent material is merely sandwiched between two pre-formed layers of fiber sheets. (Col. 6, lines 4-18) (emphasis added). Thus, an important goal of Anderson, et al. is providing wet-formed composites that can contain even relatively high concentrations of absorbent material. In contrast, such high levels of superabsorbent material would likely have an adverse affect on the integrity and strength of a “tissue product” that is formed according to Applicants’ present invention primarily from one or more paper webs and that has a basis weight of less than about 100 grams per square meter, as required by the present claims.

Additionally, all of the Examples of Anderson, et al. describe wet-formed composites that include from 37% to 76% by weight absorbent material, based on total weight of the bone dry composite. Anderson, et al. fails to provide any examples of wet-formed composites that include weight percentages of absorbent material even close to 5%. Therefore, the limitation in independent claim 70, requiring the superabsorbent material to comprise from about 0.1% to 3% by weight of the paper web, is not obvious in view of Anderson, et al.

In addition, Applicants respectfully submit that dependent claims 71-87, 89-92, and 94-98 patentably define over the cited reference for at least for the reasons set forth

above relating to independent claims 70, 88, and 93. However, Applicants also note that the patentability of such dependent claims does not necessarily hinge on the patentability of independent claims 70, 88, and 93. In particular, it is believed that some or all of these dependent claims may possess features that are independently patentable, regardless of the patentability of claims 70, 88, and 93.

In summary, Applicants respectfully submit that the present claims patentably define over all of the prior art of record for at least the reasons set forth above. As such, it is believed that the present application is in complete condition for allowance and favorable action, therefore, is respectfully requested. Should any issues remain after consideration of this Amendment, Examiner Halpern is invited and encouraged to telephone the undersigned at his convenience.

Please charge any additional fees required by this Amendment to Deposit Account No. 04-1403.

Respectfully submitted,
DORITY & MANNING, P.A.



Jason W. Johnston
Registration No. 45,675

P. O. Box 1449
Greenville, SC 29602-1449
Phone: (864) 271-1592
Facsimile: (864) 233-7342

Date: 3/23/04